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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,904	09/11/2003	Anthony Vetro	MERL-1500	4185
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MITSUBISHI ELECTRIC RESEARCH LABORATORIES, INC.				
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EXAMINER				
DIEP, NHON THANH				
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07/25/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/659,904

Applicant(s)

VETRO ET AL.

Examiner

Nhon T. Diep

Art Unit

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 19 is/are rejected.
- 7) ☒ Claim(s) 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/11/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI-108)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al (US 20020010938), in view of Zhao et al (US 6,940,903).

In regard to claim 1 Zhang discloses a method for encoding a plurality of video (Zhang Figs. 2, 4, 8 and 9 and pars 42-46 and 76-126) including:

acquiring a plurality of input videos, in which compressed frames (paragraph 0025) of each input video are acquired at a fixed sampling rate (Zhang Fig. 2 and pars. 44 and 84 note at least video's m and n are received);

applying concurrently and in parallel joint analysis to the plurality of compressed videos to determine a variable and non-uniform temporal sampling rate for each compressed video so that a combined distortion is minimized (Zhang Fig. 9 960 note frame skipping and pars. 77-91 and 126 note par. 78 resource allocation to minimize the overall distortion); and

sampling compressed frames of each compressed video at the associated variable and non-uniform temporal sampling rate to produce a plurality of compressed output videos having variable temporal resolutions (Zhang Fig. 8 and par. 104 note skipped frames in output video). Zhang further discloses determining a variable, non-

uniform temporal sampling rate so that a combined target bit rate constraint is satisfied (Zhang par. 78), and adaptively skipping frames (Zhang par. 126). It is noted that Zhang does not disclose details of a combined frame rate constraint. However Zhao discloses a bit rate allocation method in which a frame rate constraint is determined in accordance with a target bit rate constraint, and adaptively skipping frames to meet the frame rate constraint (Zhao Fig. 4A and col. 10 line 50 to col. 11 line 23 Fig. 4A 404 set desired frame rate). It is therefore considered obvious that one of ordinary skill in the art would recognize the advantage of including the adaptive frame skipping method taught by Zhao in the invention of Zhang in order to provide better visual results for low noise environments as suggested by Zhao (Zhao col. 20 lines 62-65).

In regard to claim 2 refer to the statements made in the rejection of claim 3 above. Zhang further discloses a persistent memory (Zhang par. 138 note non-volatile memory).

In regard to claim 3, in which the compressed frames are intra-frames (Para. 0124, 0126).

In regard to claim 4, 6-7, in which the compressed videos are JPEG videos or further comprising: acquiring the plurality of compressed videos with a plurality of surveillance cameras or with a plurality of broadcast studio cameras. The examiner takes Official Notice that the compressed videos are JPEG videos or further comprising: acquiring the

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plurality of compressed videos with a plurality of surveillance cameras or with a plurality of broadcast studio cameras are well known features in the art. And, therefore, it would have been obvious to one skill in the art at the time the invention was made to modify the system of Zhang et al and Zhao et al by using compressed JPEG videos or using plurality of surveillance cameras or with a plurality of broadcast studio cameras to obtain images as shown in figure 2 of Zhang et al. Doing so would help to extend to applicability of the system and make it more practical.

In regard to claim 5, in which the compressed videos are MPEG 2 videos (Para. 0022).

In regard to claim 8, in which the combined distortion includes a temporal distortion (fig. 8, para. 0104).

In regard to claim 9, in which the temporal distortion is determined from compressed-domain information of the intra-frames (Para. 0124, 0126).

In regard to claim 12, in which the compressed frames are inter-frames (Para. 0124).

In regard to claims 13 and 16 refer to the statements made in the rejection of claim 1+12 above. Zhao further discloses considering temporal distortion in choosing skipped frames (Zhao Fig. 5 col. 11 lines 11-23 note frames with lowest cost are skipped).

In regard to claim 14, in which the compressed frames are MPEG-1/2 P/B-frames.

In regard to claim 15: in which the compressed frames are MPEG-4 P/B-video object planes (para. 0022).

3. Claim 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al in view of Zhao et al as applied to claim 4 above, and further in view of Florencio et al (US 6,621,866 B1)).

As applied to claims 1 and 9 above, it is noted that the combination of Zhang et al and Zhao et al does not particularly disclose that the compressed domain information includes DCT coefficients and further comprising: decoding partially the plurality of compressed videos before applying the joint analysis as specified in claims 10-11. Florencio et al teaches that Next, during rate control pass 26, the encoded and re-encoded segments of the video stream are output from the temporary buffer such that the re-encoded segments are inserted into their original positions in the encoded video stream. During a decoding step 32, the segments of the encoded video bit stream are decoded up to the DCT domain. In the DCT domain the DCT coefficients of the segments are requantized using different quantization scalars, as discussed in further detail below. After requantization, the decoded segments, during a re-encoding step 34, are re-encoded and stored in a temporary buffer. The re-encoded segments are then output via a selective rate control that is enabled or disabled based on characteristics of the requantized segments, as discussed in further detail below. And,

therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Zhang et al and Zhao et al by partially decoding before applying the joint analysis as taught by Florencio et al. Doing so would help to speed up the analysis process.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang in view of Zhao as applied to claim 4 above, and further in view of Yogeshwar et al (20030206717).

It is noted that neither Zhang nor Zhao disclose details of transcoding and archiving bitstreams. However at the time of the invention it was well known in the art to transcode and archive compressed bitstreams for long term storage as is evidenced by Yogeshwar (Yogeshwar Fig. 5 and par. 106 note IAF is an archival file). It is therefore considered obvious that one of ordinary skill in the art would recognize the advantage of including transcoding and archiving in the invention of Zhang in view of Zhao as was well known in the art in order to provide long term storage for many video files after they have been reduced in size.

Allowable Subject Matter

5. Claims 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T. Diep whose telephone number is 571-272-7328. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ND

/Nhon T Diep/
Primary Examiner, Art Unit 2621